BEFORE THE
POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

IN THE MATTER OF TRANS MOUNTAIN OIL PIPELINE CORPORATION, Appellant, vs. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent.	PCHB No. 403 FINAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

THIS MATTER being an appeal of a civil penalty of $20,000 imposed upon appellant for an oil spill which occurred January 10, 1973; having come on regularly for hearing before the Pollution Control Hearings Board on November 19 and 20, 1973, at Lacey, Washington; and appellant Trans Mountain Oil Pipeline Corporation appearing through its attorney David A. Nichols, and respondent Washington State Department of Ecology appearing through its attorney Charles W. Lean; and Board members present at the hearing being W. A. Gissberg the first morning and Walt Woodward; and the Board having considered the sworn testimony, exhibits, records,

files and transcript herein and having entered on the 4th day of June, 1974, its proposed Findings of Fact, Conclusions of Law and Order; and the Board having served said proposed Findings, Conclusions and Order upon all parties herein by certified mail, return receipt requested and twenty days having elapsed from said service; and

The Board having received no exceptions to said proposed Findings, Conclusions and Order; and the Board being fully advised in the premises; now therefore,

IT IS HEREBY ORDERED, ADJUDGED AND DECREED that said proposed Findings of Fact, Conclusions of Law and Order, dated the 4th day of June, 1974, and incorporated by this reference herein and attached hereto as Exhibit A, are adopted and hereby entered as the Board's Final Findings of Fact, Conclusions of Law and Order herein.

DONE at Lacey, Washington this 2nd day of July, 1974.

POLLUTION CONTROL HEARINGS BOARD

Walt Woodward
WALT WOODWARD, Chairman

W. A. Gissberg
W. A. GISSBERG, Member

BEFORE THE
POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

IN THE MATTER OF TRANS MOUNTAIN OIL PIPELINE CORPORATION, Appellant, vs. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent.	PCHB No. 403 FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

This matter having come on for a formal hearing before the Pollution Control Hearings Board on November 19 and 20, 1973, David A. Nichols appearing for appellant, and Charles W. Lean, Assistant Attorney General, appearing for respondent, and the Board having considered the evidence, briefs, and argument of counsel, and being fully advised to its satisfaction, hereby enters its Findings of Fact, Conclusions of Law and Order:

EXHIBIT A

FINDINGS OF FACT

I.

Respondent, by a "Notice" issued March 6, 1973, under its Docket No. DE 73-117, imposed a civil penalty of $20,000 upon appellant for an oil spill which occurred January 10, 1973, in Whatcom County, Washington. Appellant's application for relief from this penalty was denied by an Order dated May 31, 1973, and appellant thereafter filed a timely Notice of Appeal to this Board.

II.

Appellant operates an oil transmission pipeline extending from the Province of Alberta, Canada, to distribution centers and refineries in British Columbia, Canada, and the State of Washington, United States. The United States' portion of the line, constructed in 1954, leaves the main pipeline at the manned pumping station at Sumas, British Columbia. It proceeds to an unmanned pumping station, controlled from Sumas, at Laurel, about five miles north of Bellingham, Washington. At Laurel, the U. S. line is divided, one branch turning west to supply the Mobil and Atlantic Richfield (ARCO) refineries at Ferndale, Whatcom County, the other branch continuing southward to supply the Texaco and Shell refineries at Anacortes, Skagit County.

III.

At the end of the Ferndale branch of the U. S. line there are two valves. One valve controls the flow of oil to the Mobil refinery and takes one minute, 37 seconds to completely open or close. The other valve controls the flow of oil to the ARCO refinery and takes two minutes, 12 seconds to completely change position. The control panel

governing both valves is located near the ARCO valve. Each valve is actuated by a separate push-button switch which activates an electric motor to either open or close the gate-type valve. Each valve has a pair of indicator lights which glows when the valve reaches fully open (red light) or fully closed (green light). Neither light is on when the valve is between these positions.

IV.

Changes of deliveries from one refinery to another at Ferndale are accomplished, under the normal practices of appellant, by "swinging" the product. A "swing" requires a pipeline employee at Ferndale to simultaneously activate both valves. This is done in accordance with careful timing maintained by radio, so that the "swing" corresponds to a change in product grade within the pipeline. There is no physical or electrical intertie between the two valves designed to insure that they do, in fact, operate simultaneously.

V.

When both valves are activated for a swing, the red and green indicator lights go out when the valve begins to move. (Testimony did not establish exactly how far the valve had to move to turn out the light.) The lights do not come on again until the valve has finished opening or closing. Thus, during a swing, there is a period of time when the operator is unaware of the positions of the valves.

VI.

All valves on the U. S. portion of appellant's system, except the ARCO valve at Ferndale, were equipped at the time of the spill in question with valve "followers" or valve position indicators which

allow observers to see the exact position of the valve; i.e., whether it is open or closed, or at some point in between. The ARCO valve, which was installed later than the others on the system, was not so equipped. Installation of such a device on the ARCO valve was clearly feasible, since such a device was subsequently installed.

VII.

At about 8:27 p.m., Pacific Standard Time, on January 10, 1973, a deliveryman, 18 years in the employ of appellant, attempted to make a swing from the Mobil refinery to the ARCO refinery. At that time the line was operating with three pumps on at Laurel and two pumps on at Sumas, with a pressure on the discharge side of the Laurel station of approximately 680 pounds per square inch (psi). The deliveryman activated both valves and both indicator lights went out. After one minute, 37 seconds, the light indicating the Mobil valve was closed came on; however, the light indicating the ARCO valve was open did not come on when it should have.

VIII.

The deliveryman realized something was wrong almost immediately and went to the ARCO valve and began to open it manually. When he started to turn the manual hand wheel, he could hear the electric motor in the valve engage and the valve then opened.

IX.

The deliveryman could not tell how far the valve had opened before the malfunction, although it had to have opened at least a fraction of an inch to make the indicator light go out. The ARCO valve is visible from the control panel and, if a valve position indicator had

been installed, any failure of the valve to operate correctly would have been immediately apparent without waiting for the lights to come on (or fail to come on).

X.

It is not known what caused the ARCO valve to fail. Its behavior on the evening of January 10, 1973, could not be duplicated in extensive subsequent testing.

XI.

At approximately 8:28 p.m., immediately after the attempted swing, the Laurel pump station automatically shut down because of high pressure and, almost simultaneously, the Sumas station also automatically shut down.

XII.

The Laurel station is equipped with a device which automatically and immediately shuts down the pumps at Laurel if the pressure reaches 930 psi. The device does not release the pressure nor does it stop the flow of oil, which will bypass the pumps at a reduced rate. The Laurel station has no pressure-relief devices other than the automatic shut off. The Laurel station has a pressure recording device, but all it showed was a rapid increase in pressure which caused the pen to fail to mark on the chart. It did not indicate the magnitude of the pressures experienced at Laurel.

XIII.

The shut down of the Laurel station caused a rapid pressure increase to move up the line to Sumas, which station also automatically shut down. The Sumas station is equipped with a pressure release valve which

relieved the pressure at that point. The Sumas pressure recording device also failed to record the pressure experienced at Sumas.

XIV.

On January 10, 1973, there were no pressure release valves on the United States' portion of appellant's pipeline.

XV.

When the ARCO valve failed to open on January 10, 1973, two types of pressure build-up occurred in appellant's pipeline, first, as the Mobil valve closed and the pumps continued to pump against a closing orifice, the pressure would increase; second, as the Mobil valve reached a closed or nearly closed position, a powerful surge of pressure would be created and rebound up the line at 1,800 feet per second. The combination of these two pressure effects at Laurel clearly caused pressures in excess of 930 psi and most likely in excess of 1100 psi.

XVI.

The line from Laurel to Ferndale had been hydrostatically tested at 990 psi immediately after it was constructed. This is well below the surge pressures which would be expected in the event of a line blockage.

XVII.

Within a minute or two after the Laurel and Sumas pump stations had automatically shut down, the deliveryman reported by radio that the ARCO valve was open after having malfunctioned. One pump at Sumas was immediately restarted and a second pump was restarted three minutes later. The pumps at Laurel were not restarted. This caused oil to continue to move through the United States' portion of the line,

but at a reduced pressure.

XVIII.

It is approximately 5.5 miles from the ARCO valve and the refinery itself. This section of line was empty before the swing. It takes 20 to 25 minutes to fill this line. When the line is refilled, oil should appear at the refinery tanks, and both the incoming and outgoing pressures at the Laurel pump station should rise. During the interim period of 20 to 25 minutes, appellant had no way of determining whether its pipeline was functioning properly.

XIX.

By use of a check valve, appellant could have eliminated the void between the ARCO valve and the refinery; and the amount of flow through that portion of the line could have been determined if a flow meter had been installed.

XX.

By 9:00 p.m. (P.S.T.), appellant's operator at Sumas knew that the pressures at the Laurel station were remaining abnormally low. By 9:02 p.m., he knew that the meter at the ARCO refinery showed less oil leaving the line at the refinery than was entering it at Sumas. These conditions were consistent with the possibility of a break in the pipeline.

XXI.

The Sumas operator shut down one of his pumps at 9:20 p.m., 42 minutes after the spill and 18 minutes after his readings from three different sources showed something was very wrong. The second Sumas pump was shut down and all oil diverted from the U. S. line at 9:47 p.m.,

one hour and 19 minutes after the break and 45 minutes after it was apparent that something was very wrong.

XXII.

At all times relevant hereto, appellant's employees were acting pursuant to, or in a manner consistent with, appellant's established company procedures.

XXIII.

The operator at Sumas had fifteen years' experience at the Sumas station. He had never experienced an over pressure shut down of the Laurel station before.

XXIV.

Almost instantaneously after the failure of the ARCO valve, a break occurred in appellant's pipeline approximately 1-1/4 miles downstream of the Laurel pump station on the line to Ferndale. The break consisted of a parting of about six inches along the longitudinal welded seam of a section of pipe, which was later found to have a misalligned weld.

XXV.

Oil from the pipeline flowed into a marsh or swamp, then into two farm ponds, and then to roadside ditches and eventually to the headwaters of Silver Creek, a small creek tributary to the Nooksack River. No ground water aquifers were contaminated, but oil continued to appear in the shallow subsurface waters ten months after the spill. The area affected was approximately five acres.

XXVI.

Approximately 10,500 barrels, or 440,000 gallons, of crude oil

were spilled. This is the largest inland oil spill in the history of the state, and the second largest of all spills which have occurred in the state.

XXVII.

When the oil initially spilled, the ground and waters were frozen. A thaw and rain soon hampered cleanup operations. After some initial delays, appellant undertook a very complete and adequate cleanup at a cost of $400,000.00 to itself.

XXVIII.

Although appellant has had oil spills in Canada, the subject spill was the first in appellant's nineteen years of operation of its United States' pipeline.

XXIX.

Any Conclusion of Law hereinafter recited which should be deemed a Finding of Fact is hereby adopted as such.

Based upon the foregoing Findings of Fact, the Board makes the following:

CONCLUSIONS OF LAW

I.

The actions of appellant's employees in continuing to send oil down the United States' line to Ferndale for one hour and nineteen minutes after the failure of the ARCO valve, and for forty-five minutes after the available indicators showed abnormalities consistent with a pipeline break were characterized by a lack of ordinary prudence under the circumstances and were negligent. Since at all times appellant's employees were acting pursuant to appellant's authorization

and procedures, this negligence is attributable to appellant.

II.

Appellant was also negligent in its failure to provide facilities to adequately control and monitor operations at the Ferndale end of the line. There failures included the lack of any visible valve position indicator on the ARCO valve, and the lack of any means of determining whether adequate quantities of oil are going toward the refinery until the void in the line is filled.

III.

Appellant's omission of any pressure relief devices or other means of accommodating surge pressures on the United States' line was also a lack of ordinary prudence under the circumstances and constitutes negligence.

IV.

Each of the negligent acts or omissions set forth herein in Conclusions of Law I-III in itself justifies the imposition of a penalty under RCW 90.58.350, and respondent's imposition of a penalty should be affirmed.

V.

In determining the amount of the penalty, respondent must consider the "gravity" of the violation, which includes the size of the spill and the nature of the negligence involved. In view of the gravity of this spill, respondent's imposition of a $20,000.00 penalty was not unreasonable and should be affirmed.

VI.

Any Finding of Fact which should be deemed a Conclusion of Law

is hereby adopted as such.

Based upon the foregoing, the Pollution Control Hearings Board hereby enters the following

ORDER

The appeal of appellant herein is denied, and the decision of respondent to issue the penalty under its Docket No. DE 73-117, and the size of said penalty, are in all respects affirmed.

DATED this 4th day of June, 1974.

POLLUTION CONTROL HEARINGS BOARD

Walt Woodward

WALT WOODWARD, Chairman

W. A. Gissberg

W. A. GISSBERG, Member